

Unit 10 Objective 3 Remediation

Subtracting Polynomials

To subtract polynomials, you must distribute the subtraction sign to all of the terms in the parenthesis and change the subtraction sign into an addition sign. Next, finish the problem as an addition problem by **combining like terms**. Like terms are terms that have the **same variable part and same exponent**.

Example One

Simplify $(4x - 8y + 1) - (-x + 5y - 9)$

Distribute the subtraction sign to all of the terms in the parenthesis and change the subtraction sign into an addition sign.

$$(4x - 8y + 1) \text{ } \textcircled{-} (-x + 5y - 9)$$

$$(4x - 8y + 1) + (+x - 5y + 9)$$

$$(4x + x) + (-8y - 5y) + (1 + 9)$$

Answer: $5x - 13y + 10$

Example Two

Simplify $(-2x^2 + 3x - 5) - (3x^2 + 5x - 2)$

Distribute the subtraction sign to all of the terms in the parenthesis and change the subtraction sign into an addition sign.

$$(-2x^2 + 3x - 5) \text{ } \textcircled{-} (3x^2 + 5x - 2)$$

$$(-2x^2 + 3x - 5) + (-3x^2 - 5x + 2)$$

$$(-2x^2 - 3x^2) + (3x - 5x) + (-5 + 2)$$

Answer: $-5x^2 - 2x - 3$

Did You Hear About ...

1	2	3	4	5	6	7
8	9	10	11	12	13	14 ?

 Subtract the polynomials. Write the word next to the correct answer in the box containing the exercise number.

1 $9u + 4$
 $-(5u + 8)$

2 $10u^2 - 3$
 $-(2u^2 + 9)$

3 $16u^2 + 5u$
 $-(7u^2 - 12u)$

4 $3u^2 + 8u - 1$
 $-(11u^2 - u + 6)$

5 $4u^2 - 7u - 7$
 $-(15u^2 - 2u + 3)$

6 $5u^2 + 5u - 2$
 $-(4u^2 + 6u - 13)$

7 $(8u^2 - 3u + 11) - (2u^2 - 5u - 4)$

8 $(-x^2 + 7x + 10) - (-5x^2 + 2x - 18)$

9 $(6x^3 + x^2 - 9x) - (-3x^3 + 4x^2 - 9x)$

10 $(5x^3 - 12x^2 + 2x) - (2x^3 - 7x^2 + 14)$

11 $(3x^4 - 4x^2 - 9) - (-8x^2 - 5x - 1)$

12 $(x^4 - 7x^3 + 16x^2) - (7x^2 - 2x^4)$

13 $(-2x^2 + 9xy - 5y^2) - (x^2 + 6xy - 11y^2)$

14 $(8x^2 + 3xy - 20y^2) - (-4x^2 + 3xy + 20y^2)$

Answers 1-7

$6u^2 - 2u - 10$ • FRIEND

$-11u^2 - 5u - 10$ • THE

$8u^2 - 10$ • GIANT

$4u - 4$ • THE

$6u^2 + 2u + 15$ • ANT

$-8u^2 + 9u - 7$ • AND

$9u^2 - 3u + 15$ • SPIDER

$8u^2 - 12$ • BOY

$9u^2 - u + 11$ • GIRL

$-8u^2 - 7u - 5$ • WHO

$9u^2 + 17u$ • ANT

Answers 8-14

$3x^4 - 7x^3 + 9x^2$ • BECAME

$4x^2 - 5x - 8$ • RUNNING

$9x^3 - 3x^2$ • GOT

$3x^4 + 4x^2 + 5x - 8$ • AND

$3x^3 - 5x^2 - 4x + 14$ • STUCK

$-3x^2 + 3xy + 6y^2$ • PAIR

$3x^3 - 5x^2 + 2x - 14$ • TOGETHER

$3x^4 + 7x^3 + 4x^2 - 8$ • THEN

$12x^2 - 40y^2$ • ANTS

$4x^2 + 5x + 28$ • WHO

$-3x^2 + 15xy - 6y^2$ • SUGAR

Daffynition Decoder

1. Romantic:

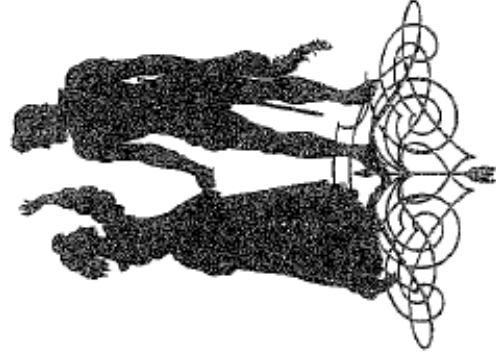
11	13	8	12	11	1	8	11	13	8	13	10	3	5	12
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2. American:

11	2	11	9	9	6	5	7	13	12	11	8	13	3	4
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For each exercise below, subtract the second polynomial from the first. Find your answer in the answer column and notice the letter next to it. Each time the exercise number appears in the code, write this letter above it. Keep working and you will decode the "de-fun-itions."

- 1 $(7x + 4) - (2x + 9)$
- 2 $(3x + 12) - (5x - 6)$
- 3 $(-4x^2 + 10) - (6x^2 - 9)$
- 4 $(2x^2 + 3x + 8) - (x^2 + 5x - 1)$
- 5 $(-x^2 + 9x - 2) - (9x^2 - 4x + 4)$
- 6 $(3x^2 + 7x + 1) - (8 + 5x + x^2)$
- 7 $(4x^3 + 6x^2 - 8x) - (x^3 - 2x^2 + 12x)$
- 8 $(x^3 + 2x^2 + 5x) - (3x^2 - x - 7)$
- 9 $(x^4 + 8x^2 - 1) - (x^2 - 3x^3 + x^4)$
- 10 $(5x^4 - 2x^2) - (3x - 2x^2 - 4x^3 + 6x^4)$
- 11 $(3x^2 + 7xy - 2y^2) - (x^2 - 6xy + 2y^2)$
- 12 $(-x^2 - 9xy + 5y^2) - (4x^2 - 2xy - y^2)$
- 13 $(4x^2y - 3xy^2) - (3x^2y - 8xy^2)$



Answers:

- | | |
|-----|----------------------|
| (M) | $-x^4 + 4x^3 - 7x^2$ |
| (S) | $-x^4 + 4x^3 - 3x$ |
| (U) | $3x^3 + 5x^2 + 7$ |
| (L) | $5x - 5$ |
| (E) | $-10x^2 + 19$ |
| (F) | $2x^2 + 2x - 19$ |
| (C) | $-10x^2 + 13x - 6$ |
| (H) | $-2x + 18$ |
| (T) | $-5x^2 - 7xy + 6y^2$ |
| (O) | $3x^3 + 8x^2 - 20x$ |
| (P) | $3x^3 + 7x^2 - 1$ |
| (R) | $x^2 - 2x + 9$ |
| (A) | $2x^2 + 13xy - 4y^2$ |
| (N) | $x^2y + 5xy^2$ |
| (Y) | $2x^2 + 2x - 7$ |
| (B) | $-5x^2 - 6xy + 7y^2$ |
| (I) | $x^3 - x^2 + 6x + 7$ |